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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/784,007	02/20/2004	David P. Brennan	0250-0001	6983
33297 7590 10/02/2007 BEEM PATENT LAW FIRM, 53 W. JACKSON BLVD., SUITE 1352 CHICAGO, IL 60604-3787			EXAMINER NORMAN, SAMICA L	
			ART UNIT 3692	PAPER NUMBER
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	Application No. 10/784,007	Applicant(s) BRENNAN ET AL.	
	Examiner Samica L. Norman	Art Unit 3692	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 25 July 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |                                                                                        |                                                                   |
|----------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>20040220 and 20061113</u> .                                   | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

Claims 1-16 are pending.

### *Election/Restrictions*

1. Applicant's election with traverse of Invention I in the reply filed on July 25, 2007 is acknowledged. The traversal is on the ground(s) that Inventions I and II overlap in scope. This is not found persuasive because Invention II has the additional step of selecting a volume event trigger. The requirement is still deemed proper and is therefore made FINAL.

### *Specification*

2. The disclosure is objected to because of the following informalities: Paragraph 0007, lines 15-16 recites "out-of-the-money **paint** open interest" which should recite "out-of-the-money **pain** open interest" to be consistent with terminology already being used. Appropriate correction is required.

### *Claim Rejections - 35 USC § 112*

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 10-15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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5. Regarding claims 10-15. The claims recite the phrases “composite implied volatility,” “modified composite volatility,” in-the-money pain strike price,” and “out-of-the-money pain strike price.” These phrases are not lexicographically defined in the specification. These phrases are discussed in the specification using the term “may.” “As a matter of linguistic precision, optional elements do not narrow the claim because they can always be omitted.” *In re Johnston*, 435 F.3d 1381, 77 USPQ2d 1788, 1790 (Fed. Cir. 2006)(where the Federal Circuit affirmed the Board’s claim construction of “further including that said wall may be smooth, corrugated, or profiled with increased dimensional proportions as pipe size is increased” as non-limiting since “this additional content did not narrow the scope of the claim because these limitations are stated in the permissive form ‘may.’”). Words of the claim are generally given their ordinary and customary meaning, unless it appears from the written description that they were used differently by the applicant. Where an applicant chooses to be his or her own lexicographer and defines terms with special meanings, he or she must set out the special definition explicitly and with “reasonable clarity, deliberateness, and precision” in the disclosure to give one of ordinary skill in the art notice of the change. See *Teleflex Inc. v. Ficosa North America Corp.*, 299 F.3d 1313, 1325, 63 USPQ2d 1374, 1381 (Fed. Cir. 2002), *Rexnord Corp. v. Laitram Corp.*, 274 F.3d 1336, 1342, 60 USPQ2d 1851, 1854 (Fed. Cir. 2001), and MPEP § 2111.01. Pursuant to 35 U.S.C. § 112, 2<sup>nd</sup> paragraph, “[i]t is applicant’s burden to precisely define the invention, and not the [examiner’s].” *In re Morris*, 127 F.3d 1048, 1056, 44 USPQ2d 1023, 1029 (Fed. Cir. 1997).

6. If Applicant(s) expressly admits that the phrases “composite implied volatility,” “modified composite volatility,” in-the-money pain strike price,” and “out-of-the-money pain

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strike price” are old and well know in the art and provides appropriate evidence in support there of (e.g. a U.S. Patent), this particular 35 U.S.C. 112 2<sup>nd</sup> Paragraph rejection will be withdrawn.

***Claim Rejections - 35 USC § 102***

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 1, 2, 5-7 and 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Bay, Jr., U.S. Patent No. 5,347,452 (reference A on the attached PTO-892).

9. As per claim 1, Bay, Jr. teaches a method for analyzing trade data for financial products comprising the following steps: selecting at least one financial product from a plurality of financial products (see Abstract lines 1-2, column 2, lines 66-67 and column 3, lines 1-2), selecting a first time span, wherein said first time span includes a plurality of time units (see Abstract lines 5-7 and column 3, lines 9-13); determining trade data for said first time span for said at least one financial product (see column 3, lines 9-13); displaying said trade data according to said plurality of time units (see Abstract lines 8-9 and Figures 1 and 1a); selecting at least one of said plurality of time units (see column 3, lines 9-13); determining a second time span, wherein said second time span includes at least said selected at least one time unit (see Abstract lines 9-12 and column 3, lines 13-16); determining prices and volumes for said at least one financial product for said second classifying said prices according to a plurality of price zones

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(see column 4, lines 25-27); displaying said plurality of price zones and corresponding volumes for said plurality of price zones (see column 4, lines 25-27).

10. As per claim 2, Bay, Jr. teaches the method of claim 1 as described above. Bay, Jr. further teaches wherein each one of said plurality of price zones is a discrete price (see column 4, lines 47-51).

11. As per claim 5, Bay, Jr. teaches the method of claim 1 as described above. Bay, Jr. further teaches selecting at least one price zone from said plurality of price zones; displaying a graph of prices versus time (see column 4, lines 27-29); drawing a price line corresponding to said selected at least one price zone (see column 4, lines 25-27).

12. As per claim 6, Bay, Jr. teaches the method of claim 1 as described above. Bay, Jr. further teaches wherein displaying corresponding volumes said plurality of price zones, further comprises: determining and displaying for each one of said plurality of price zones a corresponding volume over said second time span (see Figures 1 and 1a).

13. As per claim 7, Bay, Jr. teaches the method of claim 1 as described above. Bay, Jr. further teaches wherein determining said second time span, comprises the steps: selecting a count of time units, wherein said second time span includes said selected at least one of said plurality of time units and said count of time units occurring before said selected at least one of said plurality of time units (see column 2, lines 66-67 and column 3, lines 1-2 and column 5, lines 16-26).

14. As per claim 16, Bay, Jr. teaches a method for analyzing trade data for financial products comprising the following steps: selecting at least one financial product from a plurality of financial products (see Abstract lines 1-2, column 2, lines 66-67 and column 3, lines 1-2);

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selecting a first time span (see Abstract lines 5-7 and column 3, lines 9-13); selecting a time unit size (see column 2, lines 66-67 and column 3, lines 1-2); dividing said first time span into a plurality of time units (see column 3, lines 16-20); determining first trade data for said at least one financial product, wherein said first trade data comprises contract prices (see column 3, lines 13-16); classifying said first trade data into said plurality of time units (see Abstract lines 8-9 and Figures 1 and 1a); selecting a subspan of said first time span (see column 3, lines 2-6); determining a second time span, wherein said second time span includes at least said selected subspan (see Abstract lines 9-12 and column 3, lines 13-16); determining second trade data for said at least one financial product for said second time span, wherein said second trade data comprises contract prices (see column 3, lines 13-16); classifying said second trade data according to a plurality of price zones (see column 4, lines 25-27); selecting at least one price zone of said plurality of price zones (see column 4, lines 25-35); identifying a subset of said first trade data having contract prices within said selected price zone (see column 4, lines 25-35).

### ***Claim Rejections - 35 USC § 103***

15. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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16. Claims 3, 4, 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bay, Jr., U.S. Patent No. 5,347,452 (reference A on the attached PTO-892) in view of Speth et al., U.S. PG-Pub No. 2005/0102214 (reference B on the attached PTO-892).

17. As per claim 3, Bay, Jr. teaches the method of claim 1 as described above. Bay, Jr. does not explicitly teach wherein said financial product is a future contract. Speth et al. teaches wherein said financial product is a future contract (see paragraph 0065, lines 3-6). It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate this feature into the method of Bay, Jr. One of ordinary skill in the art would have been motivated to incorporate this feature for the purpose of tracking the level of an index (see paragraph 0067, lines 5-7 of Speth et al.).

18. As per claim 4, Bay, Jr. teaches the method of claim 1 as described above. Bay, Jr. does not explicitly teach wherein said financial product is an option contract. Speth et al. teaches wherein said financial product is an option contract (see paragraph 0065, lines 3-6). It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate this feature into the method of Bay, Jr. One of ordinary skill in the art would have been motivated to incorporate this feature for the purpose of tracking the level of an index (see paragraph 0067, lines 5-7 of Speth et al.).

19. As per claim 10, Bay, Jr. teaches the method of claim 1 as described above. Bay, Jr. does not explicitly teach wherein displaying said trade data further comprises: determining and displaying for each one of said plurality of time units a composite implied volatility. Speth et al. teaches wherein displaying said trade data further comprises: determining and displaying for each one of said plurality of time units a composite implied volatility (see paragraph 0011, lines



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3-9). It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate this feature into the method of Bay, Jr. One of ordinary skill in the art would have been motivated to incorporate this feature for the purpose of determining changes in the market (see paragraph 0062, lines 1-6 and paragraph 0064, lines 5-8 of Speth et al.).

20. As per claim 11, Bay, Jr. teaches the method of claim 1 as described above. Bay, Jr. does not explicitly teach wherein displaying said plurality of price zones further comprises:

determining and displaying for each one of said plurality of price zones a modified composite implied volatility. Speth et al. teaches wherein displaying said plurality of price zones further comprises: determining and displaying for each one of said plurality of price zones a modified composite implied volatility (see paragraph 0011, lines 3-9). It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate this feature into the method of Bay, Jr. One of ordinary skill in the art would have been motivated to incorporate this feature for the purpose of determining changes in the market (see paragraph 0062, lines 1-6 and paragraph 0064, lines 5-8 of Speth et al.).

21. Claims 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bay, Jr., U.S. Patent No. 5,347,452 (reference A on the attached PTO-892) in view of Gatto, U.S. Patent No. 6,681,211 (reference C on the attached PTO-892).

22. As per claim 8, Bay, Jr. teaches the method of claim 1 as described above. Bay, Jr. does not explicitly teach wherein displaying said trade data further comprises: displaying for each one of said plurality of time units at least one volume corresponding to at least one of a plurality of trader groups. Gatto teaches wherein displaying said trade data further comprises: displaying for

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each one of said plurality of time units at least one volume corresponding to at least one of a plurality of trader groups (see column 15, lines 33-61). It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate this feature into the method of Bay, Jr. One of ordinary skill in the art would have been motivated to incorporate this feature for the purpose of determining how well the analysts in a brokerage house are doing (see column 27, lines 14-17 of Gatto).

23. As per claim 9, Bay, Jr. teaches the method of claim 1 as described above. Bay, Jr. does not explicitly teach wherein displaying said plurality of price zones further comprises: displaying for each one of said plurality of price zones at least one volume corresponding to at least one of a plurality of trader groups. Gatto teaches wherein displaying said plurality of price zones further comprises: displaying for each one of said plurality of price zones at least one volume corresponding to at least one of a plurality of trader groups (see column 27, lines 11-22). It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate this feature into the method of Bay, Jr. One of ordinary skill in the art would have been motivated to incorporate this feature for the purpose of determining how well the analysts in a brokerage house are doing (see column 27, lines 14-17 of Gatto).

24. Claims 12-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bay, Jr., U.S. Patent No. 5,347,452 (reference A on the attached PTO-892) in view of Thompson et al., U.S. PG-Pub No. 2004/0133500 (reference D on the attached PTO-892).

25. As per claim 12, Bay, Jr. teaches the method of claim 1 as described above. Bay, Jr. does not explicitly teach wherein displaying said plurality of price zones further comprises:

determining and displaying for a subset said plurality of price zones an in-the-money pain strike price, wherein said subset of said plurality of price zones correspond to prices which are in-the-money. Thompson et al. teaches wherein displaying said plurality of price zones further comprises: determining and displaying for a subset said plurality of price zones an in-the-money pain strike price, wherein said subset of said plurality of price zones correspond to prices which are in-the-money (see paragraph 0105, lines 22-25). It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate this feature into the method of Bay, Jr. One of ordinary skill in the art would have been motivated to incorporate this feature for the purpose of using market trend indicators to make better trade decisions (see paragraph 0104, lines 17-19 of Thompson et al.).

26. As per claim 13, Bay, Jr. teaches the method of claim 1 as described above. Bay, Jr. does not explicitly teach wherein displaying said plurality of price zones further comprises:

determining and displaying for a subset said plurality of price zones an out-of-the-money pain strike price, wherein said subset of said plurality of price zones correspond to prices which are out-of-the-money. Thompson et al. teaches wherein displaying said plurality of price zones further comprises: determining and displaying for a subset said plurality of price zones an out-of-the-money pain strike price, wherein said subset of said plurality of price zones correspond to prices which are out-of-the-money (see paragraph 0105, lines 25-27). It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate this feature into the method of Bay, Jr. One of ordinary skill in the art would have been motivated to

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incorporate this feature for the purpose of using market trend indicators to make better trade decisions (see paragraph 0104, lines 17-19 of Thompson et al.).

27. As per claim 14, Bay, Jr. teaches the method of claim 1 as described above. Bay, Jr. does not explicitly teach wherein displaying said plurality of price zones further comprises:

determining and displaying for a subset of said plurality of price zones an in-the-money pain open interest, wherein said subset of said plurality of price zones correspond to prices have prices which are in-the-money. Thompson et al. teaches wherein displaying said plurality of price zones further comprises: determining and displaying for a subset of said plurality of price zones an in-the-money pain open interest, wherein said subset of said plurality of price zones correspond to prices have prices which are in-the-money (see paragraph 0105, lines 22-25). It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate this feature into the method of Bay, Jr. One of ordinary skill in the art would have been motivated to incorporate this feature for the purpose of using market trend indicators to make better trade decisions (see paragraph 0104, lines 17-19 of Thompson et al.).

28. As per claim 15, Bay, Jr. teaches the method of claim 1 as described above. Bay, Jr. does not explicitly teach wherein displaying said plurality of price zones further comprises:

determining and displaying for a subset of said plurality of price zones an out-of-the money pain open interest, wherein said subset of said plurality of price zones correspond to prices have prices which are out-of-the-money. Thompson et al. teaches wherein displaying said plurality of price zones further comprises: determining and displaying for a subset of said plurality of price zones an out-of-the money pain open interest, wherein said subset of said plurality of price zones correspond to prices have prices which are out-of-the-money (see paragraph 0105, lines 25-27).

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It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate this feature into the method of Bay, Jr. One of ordinary skill in the art would have been motivated to incorporate this feature for the purpose of using market trend indicators to make better trade decisions (see paragraph 0104, lines 17-19 of Thompson et al.).

**\*The Examiner is using the following definitions to aid in examination.**

**In the Money** option contract on a stock whose current market price is above the striking price of a call option or below the striking prices of a put option.

**Out of the Money** term used to describe an option whose strike price for a stock is either higher than the current market value, in the case of a call, or lower, in the case of a put.

**Exercise Price** price at which the stock or commodity underlying a call or put option can be purchased (call) or sold (put) over the specified period.

**Implied Volatility** the volatility in spot prices that sets the Black-Scholes formula value equal to the observed option premium.

### ***Conclusion***

29. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Li et al., U.S. Patent No. 7,043,449 (reference E on the attached PTO-892), teaches a method and apparatus for augmenting the conventional price-time chart used for technical analysis of securities price movements.

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30. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Samica L. Norman whose telephone number is (571) 270-1371.

The examiner can normally be reached on Mon-Thur 6:30a-4p, w/ 1st Fri off & 2nd 6:30a-3p.

31. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kambiz Abdi can be reached on (571) 272-6702. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

32. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

sln

A handwritten signature in black ink, appearing to read 'Kambiz Abdi', with a long horizontal flourish extending to the right.

Kambiz Abdi  
Supervisory Patent Examiner, AU 3692